

SOCIAL SECURITY: RATES OF RETURN AND THE FAIRNESS OF BENEFITS

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Considerable publicity has been given in recent years to issues relating to the fairness of the social security system. Examples of such issues include the relative burden of the social security tax (employee and employer contributions) and the self-employment tax (Musgrave and Musgrave 1989, Harmelink and Speyrer 1990) and the distributional burden of taxes on social security benefits (Pellechio and Goodfellow 1983, Sammartino and Kasten 1985, and Harmelink and Speyrer 1992). Another aspect of the social security system that has received the attention of academicians and other policymakers is the fairness of the benefits structure. Specifically, inequalities in benefits can occur between single individuals of different sexes and between households with different incomes, ages, spousal income splits, and marital statuses (Outsley and Wheeler 1982; Boskin, et al. 1987; and Feldstein and Samwick 1992).

Edmund Outsley and James Wheeler (1982) quantified the payoff from social security contributions and identified various inequities in the benefits structure. They compared the benefits that would be payable under an annuity plan for workers of varying wage levels, family compositions, and working periods, with the benefits the same workers would have been entitled to under the social security benefits structure. Their results showed that future retirees could expect to receive sizable transfer payments in almost all cases, but that the difference in the dollar amounts between single-earner and two-earner families would increase in the future.

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Michael Boskin, et al. (1987) computed the expected present value of social security benefits and taxes for households with different characteristics and earnings levels. In addition, their analysis incorporated the internal rate of return for the retirement portion of social security contributions. They found real internal rates of return on social security contributions ranging from negative numbers to 6.3 percent. They noted the inequities between single men and women, between married couples and single individuals, and between married couples with different earnings splits.

Martin Feldstein and Andrew Samwick (1992) approached the topic from a different standpoint by examining the net marginal social security tax contribution rate. In calculating the appropriate tax rate, they adjusted for differences in the income, age, sex, and marital status of workers. Estimation of the present actuarial value of benefits received and the prediction of the tax rate for income received after retirement are key elements in this calculation. They concluded that the rates differ significantly in ways that reduce the equity and efficiency of the social security program. They found that the net marginal rates are very low or even negative for some employees but that the full statutory 11.2 percentage rate (employee and employer contributions of 5.6 percent each for old age and survivor benefits) applies to young workers, to workers who qualify for social security benefits as dependent spouses, and to the very poor.

Policymakers have conducted related studies highlighting these social security equity issues relating to gender, marital status, age, and income. For example, the *Report of the HEW Task Force on the Treatment of Women Under Social Security* (HEW 1978) and the congressional *Report on Earnings Sharing Implementation Study* (1985) outlined several equity concerns and numerous approaches, including earnings sharing schemes, for allegedly alleviating the inequities. Other related studies include, for example, those by the Social Security Administration (1985), and a study by Iams and Ycas (1988).

The present study determines internal rates of return for the retirement portion of the social security contributions for hypothetical individuals and couples with varying earnings splits and a range of ages and income levels. We compare pre-tax rates of return on social security contributions to those of alternative investments for similar time periods. Further, we examine the after-tax rate of return on the contributions for these hypothetical individuals and couples to determine the extent of the various inequities. In both of these analyses, we circumvent the difficult issue of choosing the appropriate discount rate to use in the present value calculation.

In addition, we explore earnings sharing as an alternative to the current benefits structure of the social security system. As evidence of the importance of this work, Feldstein and Samwick (1992: 18) suggested that more equitable treatment of married couples "could be achieved by pooling the couple's social security earnings and taxes and dividing them equally between both members" and recommended additional research in this area as a basis for reform. We also discuss other possible changes in the benefits structure to address the important topic of fairness.

Equity Issues

Issues concerning the equity of the social security system arise as a result of differences in marital status, gender, age, and income. Changes in demographic and economic situations in this country in recent years make it imperative that these equity concerns be assessed.

Marital Status Inequities

Many factors verify that the decline of the "traditional" family has occurred. According to the U.S. Decennial Census, the labor-force participation rate for women has risen to 56.8 percent in 1990 from 37.8 percent in 1960. The number of women under age 65 in the work force has nearly doubled since 1970. The number of families with both wife and husband working has increased 73 percent since 1970. This fact suggests that, even where children are present, the work force participation rate of women is high. Also noteworthy are the facts that the number of one-parent families has increased 150 percent in the past 20 years, the number of persons living alone has more than doubled since 1970, and the number of unmarried couples is more than six times as great as in 1970.

Under the present system, complaints relative to marital status arise from the fact that benefits for a one-earner couple consist of a worker's benefit and a benefit for the homemaker spouse equal to one-half of the worker's benefit. These married single-earners have not paid additional social security contributions for the right to receive the homemaker's benefit. Contributors to the social security system who have worked outside the home maintain that they are not reaping the advantages (in the form of social security benefits) from having worked throughout their lifetime in comparison to those who have done little or no work outside the home. Because of this spousal benefit, the split of income between spouses can affect the equity of the benefits structure. To illustrate, a spouse who earns only a small fraction of the couple's earnings would not receive any more benefits than if

he/she had not worked at all. Even working women who earn a more substantial percentage of the couple's earnings believe that they are not obtaining a fair return on their social security taxes because they frequently receive very little more in benefits than if they had not worked.

On the other hand, issues regarding the protection of the homemaker (whether part-time or full-time) have also received attention. Those who have worked little outside the home argue that they ought to obtain some benefits for their having maintained a home. Supporters of this position view the homemaker as making a contribution to the family which has a substantial economic value. An alternative line of thinking is that these spouses who have worked little outside the home are at greater risk of becoming poor in their later years. For these reasons, some believe that homemakers should have social security protection on their own right, and not as dependents of a spouse who is the primary earner.

Further, divorced spouses believe that the 50 percent benefit for which they might be eligible based on the primary contributor's earnings is inadequate. Widow(er)s under the age of 60 with no dependents under the age of 18 believe that they are short-changed because they receive no benefits.

In contrast, single workers sometimes object that one-earner married couples obtain a disproportionately high amount of benefits when the spousal benefit is included. Their argument is that the single worker and the earner in the one-earner married couple have contributed the same amount over the years, yet benefits for the single worker are much less.

Gender, Age, and Income Inequities

Differences can also occur as a result of gender, age, and income levels. Females' rates of return would be expected to be higher than those of males with the same income because their longer average life expectancy enables them to receive more benefits while contributions to the social security system are the same. Some may view this inequality to be offset somewhat by the fact that working women earn less than working men on average.

Age differences also introduce equity concerns. For an older individual, the old age and survivor insurance (OASI) contribution rate was as low as 1 percent for each of the employee and employer and remained below 3 percent until 1963 and below 4 percent until 1971. However, for a young person, this contribution rate would never have been less than 5 percent. Reinforcing this inequality is the fact that the maximum social security tax base was stable at relatively low

levels for many years and then increased substantially in recent years. Specifically, the base was less than \$5,000 until 1966, remained below \$10,000 until 1973, and then increased significantly in later years as a result of legislation which mandated increases in this base in proportion to the increase in average earnings. Because older beneficiaries have contributed to the system at these lower rates and with these lower bases, they can be expected to have higher rates of return than younger beneficiaries.

The basic structure of the social security system also introduces inequities in benefits as a result of differences in income. Every social security beneficiary receives a guaranteed minimum benefit. Beyond this guaranteed minimum, increases in income lead to increases in benefits up to a maximum level of benefits. The result of this structure is a system that gives low-income recipients a higher than proportionate share of benefits.

Estimation Method

Computerized simulations on hypothetical single individuals and married couples are performed in order to determine the rates of return on social security contributions and to analyze the impact of a change in the benefits structure on the rates of return. Rates of return for both pre-tax and after-tax purposes are calculated. An examination of pre-tax rates of return on social security contributions facilitates a comparison with commonly quoted returns on alternative investments. However, it is also important to disclose after-tax returns because of the lower taxation of social security benefits as compared with ordinary income. In fact, prior to 1984, social security benefits were not taxed at all.

Taxation of Social Security Benefits

Legislation creating potential for taxation of social security benefits was enacted in 1983 for taxpayers starting in 1984. Through 1993, the amount of social security benefits an individual must include in income is the lesser of (1) one-half of the benefits received, or (2) one-half of the excess of the sum of modified adjusted gross income and one-half of social security benefits over a specified base (IRC Sec. 86). Through 1993, the base is \$25,000 for a single individual or \$32,000 for joint filers, and modified adjusted gross income is equal to the sum of adjusted gross income and tax-exempt interest.

Recent legislation included in the Revenue Reconciliation Act of 1993 significantly changed the taxation of social security benefits for higher income taxpayers beginning in 1994. The act defined modified

adjusted gross income plus one-half of social security benefits as provisional income and stipulated that for taxpayers with provisional income above thresholds of \$44,000 for married couples filing jointly and \$34,000 for singles, taxable income includes the lesser of: (1) 85 percent of the taxpayer's social security benefit; or (2) the sum of 85 percent of the taxpayer's provisional income over the applicable new threshold amounts, plus the smaller of (a) the amount included under pre-1994 law, or (b) \$6,000 for married couples filing jointly (\$4,500 for singles). (Revenue Reconciliation Act of 1993, Sec. 13215(a) and (b) modifying IRC Sec. 86.)

Calculation of Rates of Return

The rate of return calculation for social security contributions involves many steps. Basically, the pre-tax rate of return is calculated by entering the contributions as negative values and the benefits received as positive values. The after-tax calculation involves subtracting the income tax liability on benefits received before entering them in the rate of return calculations.

For pre-tax purposes, to obtain the negative values or contributions, the lesser of the pre-retirement wages or the maximum effective taxable social security income base is multiplied by the applicable social security tax contribution rate in each year. The applicable contribution rate includes the OASI portion only, which has been 5.6 percent for each of the employee and employer (a total of 11.2 percent) since 1990. This measure excludes the disability income (DI) and medicare hospital insurance (HI) portions of the social security payroll tax.

To obtain the positive values in the rate of return analysis, social security benefits are computed for each hypothetical earner under each income level assumption through the PIA Calculation Program provided by the Social Security Administration. These benefits are then adjusted annually for changes in the Consumer Price Index for All Urban Consumers (CPI-U) from the time of retirement until the assumed death. Life expectancy varies depending on whether the person is male or female.

Simulations

Many assumptions are necessary for this analysis. The simulations include contributors of ages 25, 45, and 65 and are performed at various wage levels for 1990. The inclusion of individuals and couples of these ages represents well the impact of the alternative assumptions on social security recipients' rates of return. The persons ages 25, 45, and 65 are assumed to retire at their currently legislated "normal retirement" ages for social security recipients of 67, 66, and 65,

respectively. "Normal retirement" is the first year in which an individual is eligible to retire without reduction in social security benefits.

Six 1990 wage levels for each of the hypothetical earners are included: \$10,000, \$20,000, \$30,000, \$50,000, \$70,000, and \$100,000.¹ Rates of return for two-earner couples are considered with two different income splits. For one couple, each spouse is assumed to earn 50 percent of the couple's total income ("50/50 split"); and, for the other couple, one spouse is assumed to earn 60 percent and the other spouse is assumed to earn 40 percent of the couple's total income ("60/40 split"). Other splits, of course, are possible, but these two seem to illustrate the controversy well. Married couples also include those with one earner because historically one spouse stayed home to care for children; and, despite significant demographic changes, a substantial number of households that fit this description still exists.

Earnings sharing has been proposed as a method of alleviating some of the concerns about the present system (HEW 1978; U.S. House of Representatives 1985). The concept of earnings sharing is similar to that of community property in that the combined earned income of husband and wife during the period of marriage is divided equally and shared between them for the purpose of calculating their social security benefits. Specifically, each spouse would be credited with one-half of the couple's social security earnings for each year of marriage. Thus, each spouse's social security benefits would be based on earnings for the years before marriage and shared earnings for the years of marriage. The benefits then are augmented by assumed factors to simulate policy aimed at minimizing the number of individuals who receive less than under current law. As an indication of the range of possibilities, the divided benefits for couples under the earnings sharing proposal are multiplied by 125 percent and 150 percent.

For all the simulations, wage levels are adjusted over time by the percent change in aggregate real wages in each year and the increase in the general level of prices (change in the CPI-U). Through 1992, actual increases in the CPI-U and real wages are used for this adjustment; thereafter, 4 percent inflation and .75 percent real wage increases each year are assumed. Each individual is assumed to work from age 20 until the time of retirement. For simplicity (primarily in calculating the impact of earnings sharing), couples are assumed to begin working at the time they are married.

In the first year of retirement, the total of after-retirement wages, pension income, other income, and social security benefits is assumed

¹Although returns for other income levels were calculated, the levels reported are representative of the range of benefits.

to be equal to 75 percent of the amount of pre-retirement income. The levels of other (nonwage) income for individuals and couples in each age and income class are based on the tabulations of income tax return data provided by the Joint Committee on Taxation of Congress (JCT) and are adjusted annually for inflation. This total is then adjusted by the growth in the consumer price index for the remaining years of retirement until assumed death. The single individual calculations are made for both males and females because their different life expectancies impact the rate of return calculations. Married beneficiaries are assumed to be the same age; the different life expectancies of the male and female spouse are considered (U.S. Department of Health and Human Services 1982). Using the above steps and the numerous described assumptions, the pre-tax internal rate of return is then calculated by entering the contributions as negative values and the benefits as positive values.

For the after-tax calculation, it is necessary to calculate modified adjusted gross income (or provisional income, as applicable), and this process necessitates an assumption about the amount of tax-exempt income. JCT tabulations show that tax-exempt income is common mainly for higher-income taxpayers and, accordingly, our study assumes that only higher income taxpayers have tax-exempt interest. The amount of this tax-exempt income rises with increases in income from other sources.

As outlined above, the resulting tax-exempt income is added to adjusted gross income and one-half of social security benefits to determine modified adjusted gross income (or provisional income). The income tax on the social security benefits paid by all the hypothetical taxpayers for all the income levels is calculated using pre-1994 and post-1993 law as applicable and then subtracted from benefits to arrive at after-tax benefits. Actual tax rates through 1993 are used for the analysis; all bracket and exemption amounts are indexed for each year thereafter. The after-tax internal rate of return is then calculated as in the pre-tax computation.

Rates of Return on Social Security Contributions

Economists recognize that in competitive markets, the incidence, or true burden, of the tax for social security is the same whether the employers or employees make the tax payment (Musgrave and Musgrave 1989: 440–41). When the employee bears the burden of the tax, employee wages are lower because employers have to match an employee contribution to the social security system. Assuming this

is true, the combined employer-employee contribution is used in presenting the internal rates of return for this study.²

Pre-Tax Returns on Social Security Contributions for Recent Retirees

Rates of return were obtained for various alternative investments over time periods after World War II and then aggregated to give average rates of return. The investments include common stock, long-term corporate bonds, long-term government bonds, and U.S. Treasury bills. The purpose of including such a range of investments is to give the user a better means of comparing the value of one's investment in the social security system with that of different types of investments.

The returns on these forms of investment are determined by Ibbotson (1982, 1990) as follows. Common stock returns are based upon the Standard and Poor's (S&P) Composite Index which includes 500 of the largest companies (measured by stock market value) in the United States. The long-term corporate bond index is based on Salomon Brothers' High-Grade Long-Term Corporate Bond Index. The returns of long-term U.S. governments bonds are constructed from a bond portfolio using the bond data obtained from the Center for Research in Security Prices (CRSP) with the assumption of holding a 20-year life portfolio. The U.S. Treasury bill rates are calculated also from the CRSP U.S. Government Bond File assuming the shortest-term bill with not less than one month in maturity. We calculated the average rates of return for these investments for the total time period of 1945-89 and shorter time spans during that period as shown in Table 1.

A comparison of the pre-tax rates of return from the social security system (Tables 2, 3, and 4) with the average rates of return for alternative investments for the time period 1945-89 in Table 1 shows that the social security returns are very favorable. The returns for those retiring presently or in the near future are impressive. For 65-year-old couples (Table 2), the rates of return from the social security system range from 8.14 percent for 50/50 income split couples with 1990 incomes of \$100,000 to 11.24 percent for one-earner couples with incomes of \$10,000. These rates exceed those of all investments for the 1945-89 time period except the most risky, common stock,

²It is commonly assumed that workers bear the burden of payroll taxes. However, economists are not in complete agreement on this issue. Recognizing that some of the burden may fall on the employer as well, we also calculated rates of return assuming that the employer and employee share the burden of the tax equally. That is, we repeated the simulations using only the employee contributions. This process indicates that the basic conclusions of our study are not sensitive to this incidence issue.

TABLE 1
AVERAGE RATES OF RETURN FOR ALTERNATIVE INVESTMENTS
(Percent)

Time Period	Common Stock	Long-Term Corporate Bonds	Long-Term Government Bonds	U.S. Treasury Bills
1945-89	13.57	5.42	5.03	4.74
1945-54	18.41	2.27	2.60	1.01
1955-64	14.06	2.80	1.86	2.58
1965-74	2.51	2.40	2.41	5.44
1975-84	15.66	9.21	7.73	8.87
1985-89	20.83	15.48	16.10	6.81

which had a rate of return of 13.57 percent. As predicted, couples with one earner have high rates of returns because they receive spousal benefits without making additional contributions. For 65-year-old singles, the rates of return ranging from 7.65 percent for a male beneficiary with income of \$100,000 to 10.02 percent for a female with income of \$10,000 are somewhat lower than for couples because of the lack of spousal benefits but still compare favorably with all investments except common stock. As anticipated, females have higher rates of return than males with the same income because of their longer life expectancy. Overall, the rates for many 65-year-old beneficiaries are almost twice as high as the average rates of return for long-term corporate bonds, long-term government bonds, and U.S. Treasury Bills for the 1945-89 time period.³

For 45-year-old couples (Table 3), the rates range from 5.39 percent for two-earner couples with incomes of \$100,000 to 8.84 percent for one-earner couples with \$10,000 income. For 25-year-old couples (Table 4), the rates range from 4.44 percent for two-earner couples with \$100,000 income to 7.86 percent for one-earner couples with \$10,000 income. For 45-year-old and 25-year-old singles, the rates are lower. No comparison with alternative investments is possible for

³The above comparison considers both employee and employer contributions to social security. However, most beneficiaries, uninformed about the incidence issue raised by economists, naively consider only their own portion of the social security tax when trying to determine the cost of their benefits. Whether or not this naive view is accurate, it is interesting to examine this case. For example, if employee contributions only are considered, the rates of return in Table 2 would be somewhat higher, ranging from 10.95 to 13.55 percent for 65-year-old couples, and from 10.62 to 12.36 percent for 65-year-old single individuals. These rates compare favorably even with rates of return for common stock investments.

TABLE 2
PRE-TAX RATE OF RETURN FOR 65-YEAR OLDS ON
SOCIAL SECURITY CONTRIBUTIONS
(Percent)

Income Level (\$)	Single		Joint		
	Male	Female	One Earner	Two Earners (50/50)	Two Earners (60/40)
10,000	9.38	10.02	11.24	11.02	10.93
20,000	8.42	9.13	10.37	9.72	9.79
30,000	8.12	8.87	10.16	9.14	9.18
50,000	7.66	8.53	9.93	8.61	8.69
70,000	7.65	8.52	9.93	8.40	8.43
100,000	7.65	8.52	9.93	8.14	8.22

TABLE 3
PRE-TAX RATE OF RETURN FOR 45-YEAR OLDS ON
SOCIAL SECURITY CONTRIBUTIONS
(Percent)

Income Level (\$)	Single		Joint		
	Male	Female	One Earner	Two Earners (50/50)	Two Earners (60/40)
10,000	7.07	7.73	8.84	8.65	8.56
20,000	6.17	6.91	8.02	7.43	7.47
30,000	5.64	6.43	7.63	6.89	6.94
50,000	4.89	5.80	7.00	6.38	6.38
70,000	4.85	5.77	6.98	5.89	5.95
100,000	4.85	5.77	6.98	5.39	5.54

these younger beneficiaries. However, because expected inflation is assumed to be 4 percent per year, real returns on social security contributions will be positive in most every case.

After-Tax Rates of Return on Social Security Contributions

A comparison of the after-tax rates of return from the social security system with the average rate of inflation of 4.5 percent for the time period 1945-89 shows that the social security returns are very favorable. For 65-year-old couples, the nominal rates of return in Table 5

TABLE 4
PRE-TAX RATE OF RETURN FOR 25-YEAR OLDS ON
SOCIAL SECURITY CONTRIBUTIONS
(Percent)

Income Level (\$)	Single		Joint		
	Male	Female	One Earner	Two Earners (50/50)	Two Earners (60/40)
10,000	6.19	6.85	7.86	7.67	7.59
20,000	5.36	6.09	7.12	6.56	6.59
30,000	4.82	5.59	6.72	6.06	6.10
50,000	3.95	4.81	5.86	5.58	5.57
70,000	3.91	4.78	5.81	5.05	5.08
100,000	3.91	4.78	5.80	4.44	4.61

range from 7.11 to 8.97 percent for those with 1990 incomes of \$100,000 and are even higher for those with incomes of \$10,000, from 10.93 to 11.24 percent. Rates of return for all income levels are much higher than inflation. In general, the returns are not as high for singles as for couples with the same income levels because of the lack of spousal benefits.

For 45-year-old couples (Table 6), rates of return range from 4.34 percent at \$100,000 income level for a two-earner couple with a 50/50 split of income to 8.84 percent at the \$10,000 income level for a one-earner couple. For 25-year-old couples (Table 7), rates of return range from 3.54 percent at \$100,000 income level for a two-earner couple with a 50/50 split of income to 7.86 percent at the \$10,000 level for a one-earner couple. In each of these age groups, the rates are lower for singles in virtually every case. Even after adjusting for the assumed 4 percent inflation, the 25- and 45-year-old contributors can expect positive real rates of return in virtually every case. Despite small differences, the real returns calculated from our nominal after-tax returns are similar to those calculated under somewhat different assumptions in Boskin, et al. (1987).

The nominal rates of return after considering the tax consequences to earners are even more impressive when examined relative to the returns from alternative investments. Dividends and interest from the alternative investments are fully taxed, while at most one-half of social security benefits have been subject to income taxation and this would occur only at higher income levels. Of course, the 1993 legislation to

TABLE 5
AFTER-TAX RATE OF RETURN FOR 65-YEAR OLDS ON
SOCIAL SECURITY CONTRIBUTIONS
(Percent)

Income Level (\$)	Single		Joint		
	Male	Female	One Earner	Two Earners (50/50)	Two Earners (60/40)
10,000	9.38	10.02	11.24	11.02	10.93
20,000	8.42	9.13	10.37	9.72	9.79
30,000	8.05	8.77	10.16	9.14	9.18
50,000	6.57	7.54	9.78	8.51	8.57
70,000	6.41	7.40	9.00	7.68	7.70
100,000	6.41	7.40	8.97	7.11	7.20

TABLE 6
AFTER-TAX RATE OF RETURN FOR 45-YEAR OLDS ON
SOCIAL SECURITY CONTRIBUTIONS
(Percent)

Income Level (\$)	Single		Joint		
	Male	Female	One Earner	Two Earners (50/50)	Two Earners (60/40)
10,000	7.07	7.73	8.84	8.65	8.56
20,000	5.92	6.65	8.02	7.43	7.47
30,000	4.96	5.82	7.49	6.66	6.72
50,000	3.79	4.82	6.50	5.89	5.88
70,000	3.61	4.66	6.02	4.97	5.03
100,000	3.61	4.66	5.97	4.34	4.51

tax a greater amount of social security benefits will mean that the after-tax returns will be lower in the future.⁴

Earnings Sharing

As discussed earlier, policymakers have suggested that earnings sharing could simply be a computation of benefits based on split

⁴See Harmelink and Speyrer (1992) for a discussion of the effects of changing the taxation of social security benefits. Robert Genetski (1993) discusses one version of this proposal.

TABLE 7
AFTER-TAX RATE OF RETURN FOR 25-YEAR OLDS ON
SOCIAL SECURITY CONTRIBUTIONS
(Percent)

Income Level (\$)	Single		Joint		
	Male	Female	One Earner	Two Earners (50/50)	Two Earners (60/40)
10,000	6.10	6.75	7.86	7.67	7.59
20,000	4.91	5.68	7.12	6.49	6.54
30,000	4.06	4.91	6.56	5.78	5.83
50,000	2.95	3.91	5.46	5.13	5.12
70,000	2.83	3.81	5.09	4.33	4.38
100,000	2.83	3.81	4.96	3.54	3.72

income during years of marriage. Some beneficiaries, especially those who had been receiving the spousal benefit, would be harmed by such treatment. They proposed augmenting the benefits by a factor equal to, say, 125 percent or 150 percent (HEW 1978: 56). Table 8 shows that such an augmentation is not really necessary at all at income levels of \$50,000 or above. In addition, Table 8 shows that lower income couples would be over-compensated even with the lower augmentation factor of 125 percent. In addition, simple sharing of earnings leads to a higher rate of return than current law in virtually

TABLE 8
AFTER-TAX RATE OF RETURN ON SOCIAL SECURITY
CONTRIBUTIONS: EARNINGS SHARING FOR
MARRIED 65-YEAR OLDS
(Percent)

Income Level (\$)	Joint: One Earner	Earnings Shared		
		100 Percent	125 Percent	150 Percent
10,000	11.24	11.02	11.79	12.40
20,000	10.37	9.72	10.52	11.16
30,000	10.16	9.51	10.34	11.00
50,000	9.78	9.78	10.79	11.58
70,000	9.00	9.81	10.70	11.41
100,000	8.97	9.98	10.86	11.56

every case for the couple with a 60/40 income split. These observations suggest that earnings sharing would not be a hardship for most couples and may actually improve the rate of return on social security contributions for some. The 150 percent earnings sharing alternative is overly generous to the contributors and would financially burden the social security system.

Policy Implications

This article has discussed four different inequities in the social security system: marital status, gender, age, and income. Marital status appears to be the most important when considering the attention the issue has received in the literature. Rates of return for one-earner couples are up to 40 percent higher than for two-earner couples and up to 85 percent higher than for single males. Some form of earnings sharing may help alleviate some of this difference. However, the augmentation of benefits under the programs suggested by the HEW study (1978) may be unnecessary, especially for high-income recipients. Administrative problems of converting to an equitable earnings sharing system, however, could be significant, especially when considering transition rules, contribution rates of spouses who do not work outside the home, etc. The payoff would be that couples with the same total earnings would receive the same total benefits regardless of whether the couple had one or two earners. Importantly, however, because the social security system provides a minimum benefit for each recipient, earnings sharing does not solve the problem of the single (individual) earner in comparison to the one-earner couple (who would receive minimum benefits for each spouse).

If policymakers are serious about solving the inequities based on marital status, an alternative approach to solving the problem is to move toward a social security system that bases all benefits on each individual's contributions. This would mean that the spousal, widow, and divorcee benefits based on that of a primary earner's contributions would be eliminated. One way to address the spousal, widow, and divorcee needs in this revised system would be to divide the total social security contribution rate into segments. Currently the 7.65 percent rate is divided into OASI, DI, and HI portions. The revised system might include a separate "premium" to cover the spousal, widow, or divorcee benefits which could be "purchased" at the option of the contributor. This would eliminate the inequities based on marital status, yet provide contributors with the opportunity to accommodate spouses who do not work outside the home, widow(er)s, and divorcees.

Our study shows that younger earners will experience lower rates of return than current retirees. The nominal rates of return for

65-year-old contributors are up to 126 percent higher than for 25-year-old contributors. Because older beneficiaries have contributed to the system at lower rates and with lower bases, contributions to social security were clearly a much better investment for persons retiring in 1990 compared to those expecting to retire in 2011 and 2032. The problem is that reducing contribution rates will negatively affect the solvency of the social security system; on the other hand, if benefits are reduced, the welfare of social security recipients will decline. As long as current retirees receive benefits based upon the present cohort of working individuals rather than upon the value of their own contributions, this inequity will prevail. Therefore, in order to reduce differences due to age (like the marital status differences described above), more attention needs to be paid to the individual contributor's account (i.e., the accumulation of the contributions over time). That is, rather than having present contributors funding the benefits for present recipients, the present recipients might be restricted to receiving benefits solely on the basis of their contributions (perhaps with some allowance for minimum benefits and some cap or maximum on benefits). The basing of benefits on the amount of contributions would make the system more like a private pension system and would assist in providing for the solvency of the social security system.

Admittedly, transitional problems would exist in moving to a system where more emphasis is on the individual contributor's accumulations in the social security account. However, these costs would be offset by the benefits of greater fairness and increased solvency of the social security system.

A more radical proposal to eliminate the age discrimination would be to allow individuals to choose to contribute to a private pension plan rather than the social security system. That is, individuals who were able to contribute a minimum required amount through their employers' private pension plans could do so. Under such a system, self-employed persons could be given the opportunity to contribute a higher amount to either a private program or to the social security system. Any individuals not eligible for employers' plans would contribute through the governmental social security system. Although this approach has had some success in Chile (Genetski 1993), it has significant difficulties, not the least of which is the future viability of the social security system.

As income increases, rates of return consistently decline for the contributors in our study, regardless of age. Rates of return for earners with \$10,000 are up to 117 percent higher than for those with \$100,000

income. The differences based on income are sizable, but this degree of progressivity may be justifiable on other grounds.

Relative to the gender issue, in no case is the rate of return of the female more than 35 percent higher than for the male. Although this difference is substantial, the gender differences are not as high as the differences based on marital status, age, and income. In fact, it is conceivable that as the future life expectancies of the female come closer to males, as is predicted, this differential could become smaller.

Conclusion

In order to alleviate the bias of the current system, it will be necessary to make some major changes in the social security system. While the gender difference will likely diminish over time and the income inequity will be present as long as progressivity is a generally accepted concept, marital status and age problems will continue to haunt the present benefits structure. Earnings sharing, a proposal suggested as early as 1978, goes a long way to address the problems among couples with different income splits. However, it does little to solve the inequities between couples and individuals with equal earnings and does nothing to solve the inequality of treatment for people of different ages. A move to basing benefits on an individual's contributions, with an opportunity to adjust for special needs of spouses, widow(er)s, and divorcees through the purchase of such coverage, could, in the long run, be a workable solution to the marital status and age inequities, the two most serious of the four concerns identified in this article.

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